IN THE CLAIMS

Please amend the claims 1, 2, 14, 15, 17, 19, 20 and 22 as follows:

1. (Currently Amended) ~~An apparatus~~ In a video distribution system having ~~redundant~~ provider equipment including a head-end, and associated subscriber equipment, an apparatus for improving fault tolerance, comprising:

a server[[,]] comprising a plurality of server modules; ~~coupled to~~

a video switch coupled to each of said server modules at said head-end; and

at least one head-end controller, each head-end controller coupled to each server module of said plurality of server modules via at least two signal paths, wherein each communication[[s]] between ~~said at least one~~ a head-end controller and a server module at said head-end ~~each of said server modules~~ is coincidentally sent through the at least two signal paths.

2. (Currently Amended) The apparatus of claim 1, wherein [[a]] said plurality of subscriber equipment ~~capable of interfacing~~ interact with said at least one head-end controller and server for receiving video information upon request.

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3. (original) The apparatus of claim 2, wherein said at least two signal paths comprise:

at least two switches coupled between said at least one head-end controller and each of said server modules within said plurality of server modules.

4. (original) The apparatus of claim 3, wherein:

an initial message sent between said at least one head-end controller and at least one of said server modules is routed from the at least one head-end controller, through one of said at least two switches, to said one of said server modules;

a redundant message sent between said at least one head-end controller and said at least one of said server modules is routed from the at least one

head-end controller, through a second of said at least two switches, to said one of said server modules; and

wherein said one of said server modules accepts either said initial message or said redundant message arriving first.

5. (original) The apparatus of claim 4, wherein:

said one of said server modules disregards either said initial message or said redundant message arriving last.

6. (original) The apparatus of claim 5, wherein:

an initial acknowledgement is routed from said one of said server modules, through one of said at least two switches, to the at least one head-end controller;

a redundant acknowledgement is routed from said one of said server modules, through a second of said at least two switches, and to the at least one head-end controller; and

wherein said at least one head-end controller accepts either said initial acknowledgement or said redundant acknowledgement arriving first.

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7. (original) The apparatus of claim 6, wherein:

said at least one head-end controller disregards either said initial acknowledgement or said redundant acknowledgement arriving last.

8. (original) The apparatus of claim 1, wherein said video switch comprises:

a plurality of I/O ports coupled to said plurality of server modules and said plurality of subscriber equipment for transferring said video information; and

at least two switch controllers coupled to said at least one head-end controller and said plurality of I/O ports, wherein one of said at least two switch controllers serves as a primary switch controller for routing said video information between said plurality of I/O ports, and a second switch controller serves as a secondary switch controller for monitoring status of said plurality of I/O ports and said primary switch controller, whereby said secondary switch

controller initiates a switchover in an instance of a failure occurring at said primary switch controller.

9. (original) The apparatus of claim 8 wherein said primary switch controller is coupled to said at least one head-end controller via said one of said at least two switches, and said secondary switch controller is coupled to said at least one head-end controller via said second of said at least two switches.

10. (original) The apparatus of claim 8, wherein said primary switch controller is coupled to said at least one head-end controller via said at least two switches, and said secondary switch controller is coupled to said at least one head-end controller via said at least two switches.

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11. (original) The apparatus of claim 8, wherein each of said at least two switch controllers further comprise:

a switch processor for processing control commands between said head-end controllers and said primary and secondary switch controllers, between said primary switch controller and said secondary switch controller, and between said primary and secondary switch controllers and said plurality of I/O ports;

a switch matrix IC for routing said video information between said primary switch controller and said plurality of I/O ports; and

a switch controller timer for periodically querying the operational status of said primary and secondary switch controllers.

12. (original) The apparatus of claim 8, wherein each I/O port of said plurality of I/O ports comprises:

a memory table coupled to said at least two switch controllers for defining routing addresses of said video information to be routed, wherein said primary switch controller periodically updates each said memory table of said plurality of I/O ports;

a plurality of control registers coupled to said at least two switch controllers for receiving periodic message commands from said primary switch controller;

a plurality of timers coupled to said plurality of control registers;

a plurality of status registers for registering error bits, in an instance where at least one of said plurality of timers elapses prior to being reset from one of said periodic message commands, wherein said secondary switch controller periodically polls said status registers to determine whether to initiate a switchover event.

13. (original) The apparatus of claim 12 wherein said primary switch controller sends periodic pinging messages to said plurality of control registers for monitoring said switch matrix of said primary switch controller; said plurality of control registers set a first portion of said plurality of timers upon receiving said periodic ping messages; said primary switch controller sets an acknowledgement bit at said plurality of status registers; said secondary switch controller monitors said acknowledgment bits set in said plurality of status registers; and said secondary switch controller switches over to serve as said primary switch controller in an instance where a plurality of said acknowledgement bits are not set.

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14. (Currently Amended) The apparatus of claim 12 wherein said primary switch controller sends periodic polling messages to said plurality of control registers to monitor an out-of-band signal path of said primary switch controller, said out-of-band signal path for transferring control information; said plurality of control registers set a second portion of said plurality of timers upon receiving said periodic polling messages; said plurality of control registers set an error bit at said plurality of status registers in an instance where said second portion of said plurality of timers elapse prior to a next polling message; said secondary switch controller monitors said error bits set in said plurality of status registers; and said secondary switch controller switches over to serve as said primary switch controller in an instance where a plurality of said error bits are detected.

15. (Currently Amended) In a video distribution system having ~~A method of providing redundant~~ provider equipment including a head-end, and associated subscriber equipment, a method for improving fault tolerance, comprising the steps of:

transmitting, at said head-end, a plurality of messages having duplicate content from a primary head-end controller to at least one server module;

routing said plurality of messages via alternate signal paths;

accepting one of said plurality of messages that arrives at said at least one server module first;

disregarding said plurality of messages that arrives at said at least one server module thereafter; and

transmitting a plurality of acknowledgements to said primary head-end controller having sent said plurality of messages.

16. (original) The method of claim 15, further comprising the steps of:

routing said plurality of acknowledgements via said alternate signal paths;

accepting one of said plurality of acknowledgements that arrives at said primary head-end controller first; and

disregarding said plurality of acknowledgements that arrives at said primary head-end controller thereafter.

17. (Currently Amended) In a video distribution system having provider equipment including a head-end, and associated subscriber equipment, a [[A]] method of improving fault tolerance at a video switch, said method comprising the steps of:

asserting a switch controller READY signal at each of a plurality of switch controllers of said video switch at said head-end;

performing self-diagnostic tests and asserting a switch controller OK signal upon passing said self-diagnostic tests at each of said switch controllers;

indicating primary switch controller functionality by asserting a respective ONLINE signal by one of said plurality of switch controllers;

indicating secondary switch controller functionality by de-asserting a respective switch controller ONLINE signal;

monitoring said switch status via a secondary switch controller; and

initiating a switchover event in an instance where said primary switch controller is determined to be inoperable.

18. (original) The method of claim 17, comprising the steps of:

periodically performing said self-diagnostic tests at said primary and secondary switch controllers;

initiating said switch controller OK signal after each periodic self-diagnostic test prior to a timer elapsing; and

de-asserting said switch controller OK signal in an instance where said primary or secondary switch controller fails to pass said self-diagnostic tests prior to said timer elapsing.

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19. (Currently Amended) The method of claim 18, comprising the step of:

asserting said ONLINE signal by one of said plurality of switch controllers in a default mode of operation, wherein said asserting switch controller serves as an acting ~~said~~ primary switch controller.

20. (Currently Amended) In a video distribution system having provider equipment including a head-end, and associated subscriber equipment, a [[A]] method of improving fault tolerance at a video switch, said method comprising the steps of:

sending a periodic pinging command to a control register at an I/O port via a primary switch controller of said video switch at said head-end for testing a switch matrix of a primary switch controller;

setting a timer of said I/O port via said control register upon receiving said periodic pinging command;

setting an acknowledgement bit in a status register of said I/O port via said switch matrix of said primary switch controller;

monitoring status of a status register in said I/O port via a secondary switch controller; and

resetting said timer via said control register in an instance where said timer of said I/O port elapses before said switch matrix of said primary switch controller sets said acknowledgement bit in said status register.

21. (original) The method of claim 20 comprising the step of:

initiating a switchover event in an instance where said plurality of I/O ports fail to set said acknowledgment bits set in said status registers, wherein said secondary switch controller switches over to serve as said primary switch controller .

22. (original) In a video distribution system having provider equipment including a head-end, and associated subscriber equipment, a [[A]] method of improving fault tolerance at a video switch, said method comprising the steps of:

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sending a periodic polling command to a control register in an I/O port via a primary switch controller of said video switch at said head-end;

setting a timer in said I/O port via said control register upon receiving said periodic polling command;

monitoring status of a status register in said I/O port via a secondary switch controller;

setting an error message in a status register of said I/O port in an instance where said timer of said I/O port elapses before said control register resets said timer from a next polling command; and

resetting said timer via said primary switch controller.

23. (original) The method of claim 22 comprising the step of:

initiating a switchover event in an instance where a plurality of status registers in a plurality of I/O ports have said error messages set in said status registers, wherein said secondary switch controller switches over to serve as said primary switch controller.

24. (original) The method of claim 22 comprising the step of broadcasting said polling command to a plurality of said I/O ports simultaneously.

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25. (original) The method of claim 22 comprising the step of pointcasting said polling command to a plurality of said I/O ports consecutively.